

## Abstracts

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ommendations to decrease noncompliance include: 1) replacing fill-ahead pharmacy dispensing with automated queuing systems; 2) instituting reminder phone calls for more beneficiaries who use the telephone refill system; 3) implementing efforts to increase compliance among active duty military personnel; and 4) modifying the way military providers receive noncompliance reports.

## PHP8

#### EVALUATION OF A CLINICAL PHARMACOKINETIC MONITORING SYSTEM

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**OBJECTIVES:** Concentrations of some drugs appear to have inappropriate indications or suboptimal timing, particularly in the inpatient setting. It is important to know the concentration of the drug taken because each drug has a minimum and maximum level for best performance. Several studies have documented that the appropriate use of pharmacokinetic drug monitoring, particularly in conjunction with a clinical pharmacokinetic monitoring (CPM) service, is both efficient and cost-effective. The aim of this study is to evaluate the effectiveness of a computerized CPM system which was implemented in a medical center. Indicators of medication outcome were collected prior to and after the CPM system was introduced. **METHODS:** The drug Digoxin is representative and being evaluated in this study. Several objective indicators were used to estimate cost-effectiveness of this CPM. These included day interval of abnormal serum concentration, costs of laboratory blood test, length of stay and drug cost. **RESULTS:** After introducing the CPM system, day intervals of abnormality in serum concentration are significantly reduced by 3.53 days/patient. Average length of stay significantly decreases after the CPM, from 32.13 to 27.92 days in average. The cost of laboratory blood test can be saved is US\$33.27/patient. In addition, the cost of toxicity therapy was found significantly reduced by US\$9.68/patient (US\$23.76/patient vs. US\$14.09/patient;  $p < 0.05$ ), due to reducing the use of Lidocaine, Phenytoin and anti-diarrhea drugs. Similarly, significant reduction was found as US\$9.42/patient (from US\$22.82/patient to US\$13.41/patient;  $p < 0.05$ ) for the cost of combined therapy in the over-optimal group. **CONCLUSION:** This study provides the evidence for the effectiveness of the computerized CPM system by several indicators. The implementation of the CPM system is meaningful in pharmaceutical care that can improve quality of patient care as well as enhance patient safety.

## PHP9

#### EVALUATION OF A PLAN-PARTICIPANT MAILING PROGRAM TO ENCOURAGE USE OF MAIL-SERVICE PHARMACY AND FORMULARY DRUGS

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**OBJECTIVE:** To measure the effects of a participant-centric mailing focusing on out-of-pocket costs opportunities driven by medication alternatives and delivery channel choices in a pharmacy benefits system. **METHODS:** Plan-participants from a large employer that participated in the mailing program ( $n = 21,055$ ) were compared to a control group of plan-participants selected from an employer that did not participate in the program ( $n = 21,055$ ), matched on gender and Health Risk Index score. Pharmacy claims data for all continuously eligible

study/control plan-participants age 18 and older were retrospectively examined over a baseline period from January 14 to April 13, 2004 (pre-mailing), and a follow-up period from April 14 to November 14, 2004 (post-mailing). Two separate logistic regression models were constructed to assess whether participation in the program was associated with an increase in plan-participant rate of 1) mail-service pharmacy utilization (i.e. increase: yes/no), and 2) formulary compliance, while controlling for plan-participant baseline: demographics, utilization and costs. **RESULTS:** The logistic regression model for increase in mail-service pharmacy utilization showed that plan-participants who received the mailing were significantly more likely to increase mail utilization in comparison to control plan-participants (adjusted odds ratio (OR) = 1.30; 95 percent confidence interval (CI) = 1.17 – 1.43). Plan-participants receiving the mailing also had a significantly higher likelihood of increasing formulary compliance compared to the control group (adjusted OR = 1.30; 95% CI = 1.19 – 1.42) from the model for formulary compliance. **CONCLUSIONS:** This preliminary analysis showed that plan-participants receiving the program mailing were more likely to increase formulary compliance and mail-service prescription utilization. Final program outcome analyses are to be completed employing a lengthier follow-up period, larger sample sizes and additional control factors.

## PHP10

#### UTILIZATION AND COSTS OF A 90-DAY RETAIL PROGRAM IN COMPARISON WITH 30-DAY RETAIL AND MAIL SERVICES

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**OBJECTIVES:** Advantage90<sup>TM</sup> is Walgreens Health Initiatives' 90-day retail program allowing patients to obtain 90-day supplies of maintenance medications from a network of retail pharmacies. This study evaluated the changes in prescription drug utilization and costs after the introduction of this program. **METHODS:** Using a pre-post (8 months from the enrollment date) cohort study design, prescription records were obtained from Walgreens Health Initiatives' pharmacy claims database. Clients enrolled in Advantage90<sup>TM</sup> during January 1, 2004 and May 1, 2004 were included. Clients without 3-tier formulary design and rebate-eligibility were excluded. For the purpose of this study, specialty drugs were excluded. Number of prescription dispensed, costs per prescription (normalized to 90-day supply) and generic percentages in Advantage90<sup>TM</sup>, mail service and 30-day retail were analyzed and compared. **RESULTS:** Seventeen clients with a total of 236,950 eligible lives met the inclusion criteria. A total of 1,618,240 prescriptions, 802,345 in the pre period (5% mail and 95% 30-day retail) and 815,895 in the post period (14% Advantage90<sup>TM</sup>, 4% mail and 82% 30-day retail) were included. The average total cost per prescription was significantly lower in Advantage90<sup>TM</sup> than in mail service and 30-day retail (\$129.39 vs. \$191.15 vs. \$205.09,  $p < 0.0001$ ). Health plans paid significantly less for per prescription in Advantage90<sup>TM</sup> than in mail service and 30-day retail (\$100.08 vs. \$159.48 vs. 155.01,  $p < 0.0001$ ). Per prescription co-payments from patients were \$29.21 in Advantage90<sup>TM</sup>, \$31.50 in mail service and \$49.55 in 30-day retail. The generic utilization rate was higher in Advantage90<sup>TM</sup> than in mail service and 30-day retail (60.1% vs. 35.8% vs. 42.8%,  $p < 0.0001$ ). **CONCLUSIONS:** Availability of a 90-day retail program such as Advantage90<sup>TM</sup> can decrease total, health plan and member costs while increasing generic utilization rate. A 90-day retail program should be considered as an option to lowering prescription drug costs.